

2023

( CBCS )

( 5th Semester )

**ZOOLOGY**

SIXTH PAPER

( **Animal Physiology** )

Full Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks for the questions*( **SECTION : A—OBJECTIVE** )

( Marks : 10 )

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. Parietal cells of gastric gland secrete
  - (a) hydrochloric acid ( )
  - (b) pepsinogen ( )
  - (c) mucous ( )
  - (d) amylase ( )
2. Release of pancreatic juice is stimulated by
  - (a) enterokinase ( )
  - (b) cholecystokinin ( )
  - (c) trypsinogen ( )
  - (d) secretin ( )
3. The percentage of formed elements in the blood is
  - (a) 45 ( )
  - (b) 50 ( )
  - (c) 55 ( )
  - (d) 65 ( )

4. Ions of which of the following minerals play an important role in blood clotting?
  - (a) Mg ( )
  - (b) Na ( )
  - (c) Ca ( )
  - (d) K ( )
5. PCT of a nephron is lined with
  - (a) cuboidal epithelium ( )
  - (b) columnar epithelium ( )
  - (c) simple brush bordered epithelium ( )
  - (d) simple cuboidal epithelium ( )
6. Uricotelism is found in
  - (a) birds, reptiles and insects ( )
  - (b) frogs and toads ( )
  - (c) mammals and birds ( )
  - (d) fishes and freshwater protozoans ( )
7. Which among the following is found in muscle and nerve cells?
  - (a) Membrane potential ( )
  - (b) Potassium equilibrium potential ( )
  - (c) Resting potential ( )
  - (d) Sodium equilibrium potential ( )
8. The entire array of thick and thin filaments between two Z lines is called
  - (a) sarcolemma ( )
  - (b) sarcomere ( )
  - (c) sarcoplasm ( )
  - (d) sarcomembrane ( )
9. The myelin sheath is derived from the
  - (a) microglia ( )
  - (b) neuroglial cells ( )
  - (c) Schwann cells ( )
  - (d) nerve cells ( )
10. Which of the following possesses the greatest permeability in a resting nerve cell?
  - (a)  $\text{Cl}^-$  ( )
  - (b)  $\text{Na}^+$  ( )
  - (c)  $\text{K}^+$  ( )
  - (d)  $\text{I}^-$  ( )

**( SECTION : B—SHORT ANSWERS )**

**( Marks : 15 )**

Write short notes on the following :

3×5=15

**UNIT—I**

1. Absorption

**OR**

2. External and internal respirations

**UNIT—II**

3. Blood coagulation

**OR**

4. Neurogenic heart

**UNIT—III**

5. Function of glomerulus

**OR**

6. Ureotelism

**UNIT—IV**

7. Muscle proteins

**OR**

8. Cross-bridge model

**UNIT—V**

9. Resting potential

**OR**

10. Nernst equation

**( SECTION : C—DESCRIPTIVE )**

( Marks : 50 )

Answer the following :

10×5=50

**UNIT—I**

1. Define digestion and explain the process of digestion of carbohydrates.

**OR**

2. Describe the mechanism of lung respiration.

**UNIT—II**

3. With suitable diagram, explain the structure of mammalian heart.

**OR**

4. Give an account of ABO blood groups.

**UNIT—III**

5. Describe the structure and function of kidney.

**OR**

6. What is osmoregulation? Discuss the osmoregulatory process in terrestrial vertebrates.

**UNIT—IV**

7. What are the different types of muscles? Write an account on the ultrastructure of skeletal muscles.

**OR**

8. Write short notes on the following :

(a) Muscle fatigue

(b) Isometric contraction

**UNIT—V**

9. What is synapse? Explain the mechanism of synaptic transmission.

**OR**

10. Discuss the different types of neurons.

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